

## A NEW SPECIES OF THE GENUS DEXIA MEIGEN FROM HAINAN, CHINA (DIPTERA, TACHINIDAE)

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**Abstract** *Dexia hainanensis* sp. nov. (Diptera, Tachinidae) from Hainan, China is described and illustrated. It is characterized by a complete row of marginal setae on abdominal tergite 3 in male and female.

**Key words** Diptera, Tachinidae, *Dexia*, new species.

### 1 Introduction

The genus *Dexia* Meigen is an important group of the tribe Dexiini (Diptera, Tachinidae). The larvae of *Dexia* deposited on soil, hosts are mainly Scarabaeidae (Mesnil, 1980). First instar larvae of *Dexia* have 2 long setae on terminal abdominal segment dorsally (Richter & Farinets, 1984), sclerotized basal part of distiphallus distinctly longer than that of membranous apical part in male, and second costal section of wing with fine hairs ventrally in adults. These apomorphic characters support monophyly of *Dexia* and are distinctly differed from the other genera of Dexiini. *Dexia* are mainly distributed in the Oriental, Palaearctic and Afrotropical Regions, about 40 species are known in the world. Emden (1946) and Crosskey (1980) studied Afrotropical *Dexia*, Crosskey (1976) reported catalogue of Oriental *Dexia*. Mesnil (1980) revised the Palaearctic *Dexia*, Herting (1984) reported catalogue of Palaearctic *Dexia*, Chao (1996, 2002) noted some species of *Dexia* from Northern China and Hainan. Zhang & Shima (2004) studied Chinese *Dexia* in detail.

Based on examinations of *Dexia* specimens from East Asia and the Oriental Region, describe one new species of this genus from Hainan, China.

### 2 Materials and Methods

Specimens used in this study are from the collection of Institute of Entomology, Shenyang Normal University, Shenyang, China (SNUC).

Measurements and terminology mainly follow McAlpine et al. (1981), male terminalia followed Tschorsnig and Richter (1998), Tschorsnig and Richter (1998). The abbreviations of the chaetotaxy

are used for thorax and leg setae: ac, acrostichal; dc, dorsocentral; ia, intra-alar; sa, supra-alar; a, anterior; ad, anterodorsal; av, anteroventral; d, dorsal; p, posterior; pd, posterodorsal; pv, posteroventral; v, ventral.

### 3 Description

*Dexia hainanensis* sp. nov. (Figs. 1-4)

**Diagnosis.** Abdominal tergites 3 and 4 in male and female each with a complete row of marginal setae and 1-2 pairs of discal setae.

**Male.** Head grayish white pollinose, frontal vitta dark brown, fronto-orbital plate and parafacial reddish yellow, gena brown. Antenna and palpus yellow, prementum dark brown. Vertex 0.14-0.17 of head width at narrowest point, frontal vitta about as wide as fronto-orbital plate, parafacial nearly parallel-sided, slightly more than twice width of first flagellomere; facial carina narrow, high and long; gena 0.40-0.44 of eye height, lower margin of face not protruding forward. Fronto-orbital plate and parafacial bare, inner vertical seta fine, 0.3-0.4 of eye height, outer vertical seta hair-like, ocellar seta stronger than inner vertical seta, 7-8 inclinate frontal setae, lowest seta nearly level of basal antenna; vibrissa inserted at level of lower of face; occiput bulged, with 2 rows of black hairs below postocular setae. Antenna falling short of lower margin of face by about 2/3 length of first flagellomere, a seta on pedicel about as long as first flagellomere, latter 3.5-4.0 times as long as pedicel. Arista long plumose, total width including plumosity about 4 times as wide as 1st flagellomere. Palpus about as long as antenna, prementum about 3 times as long as wide.

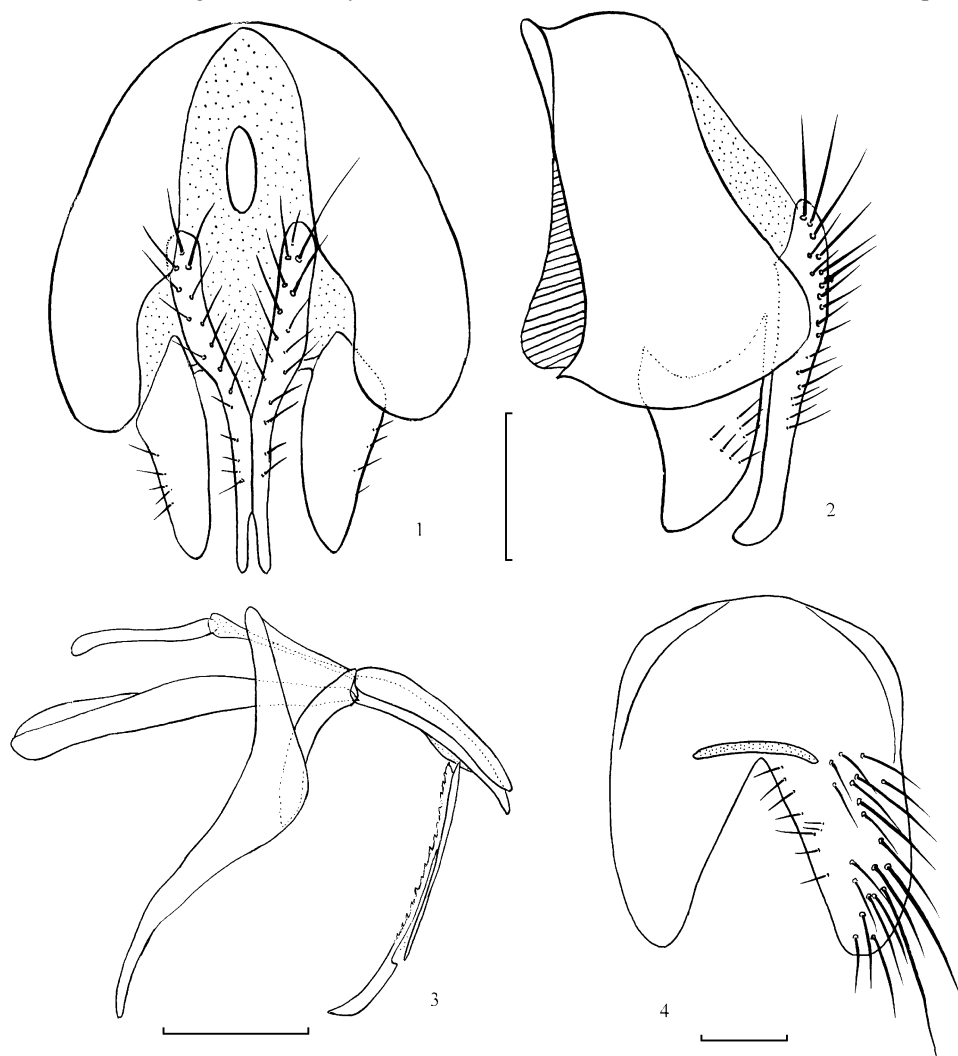
Thorax black, pale yellowish pollinose. Post-

pronotal lobe and apical half of scutellum reddish yellow, with densely grayish white pollinosity. Four black longitudinal vittae on scutum, inner vitta 0.2-0.3 times as wide as pollinose portion between inner and outer vittae. All thoracic hairs black. Prosternum bare, about twice as long as wide; proepisternum and katepimeron bare; 3-4 setae on postpronotal lobe, 2 of them strong, usually 1 + 2 ac, 3 + 3 dc, 0 + 2 ia, 2 sa setae, 1 + 1 katepisternal setae; 3 pair of strong marginal and a pair of fine discal setae on scutellum, apical scutellar setae crossed.

Wings hyaline, pale brownish, tegula and basicoستا dark brown, sometimes tegula reddish yellow on

base. Halteres yellow. Lower calypter yellowish, long fringe on outer margin. Costal spine about as long as crossvein  $r-m$ , relative lengths of 2nd, 3rd and 4th costal section approximately 1.0 2.2 1.2; vein M with a short appendage at bending which less than  $1/3$  length of  $r-m$  crossvein; cell  $R_{4+5}$  narrowly open.

Leg reddish yellow except for black tarsi, claw dark brown, pulvillus yellowish white, slightly longer than fifth tarsomere; fore tarsi more than head length, hind leg longest, hind tibia slightly sinuate at basal  $1/3$ . Fore tibia with a row of 4-6 small ad on upper  $2/3$  and 2 p setae; mid tibia with 1 ad, 2 pd and 1 v setae; hind tibia with 4-5 ad, 2-5 pd and 2-3 v setae.



Figs. 1-4. *Dexia hainanensis* sp. nov. 1-2. Epandrium, cerci and surstyli in dorsal view and profile. 3. Aedeagal apodeme, ejaculatory apodeme, hypandrium, gonopod, paramere, basiphallus and distiphallus in profile. 4. Sternite 5. Scale bars = 0.25 mm

Abdomen long oval, translucent reddish yellow, black on mid dorsal longitudinal portion of syntergites 1 + 2 to tergite 5, posterior margins of tergites 3, 4 and 5, rather densely whitish pollinosity on anterior

$1/6-1/5$  of tergites 3, 4 and 5. Abdominal syntergites 1 + 2 with a lateral marginal seta, without median marginal seta, tergites 3 and 4 each with a row of marginal and 1-2 pairs of medial discal setae; tergite 5

with a row of marginal setae and discal setae. Sternite 5 subretangular, posterior lobe blunt apically, V-shaped median cleft deep and wide. Male terminalia. Cerci long and slender, apical half nearly straight and pointed, surstylus about 3 times as long as wide, slightly pointed apically. Gonopod slightly bent posteriorly, paramere slightly shorter than basiphallus, distiphallus slender and long, sclerotized basal part about 3 times as long as membranous apical part, ejaculatory apodeme slender, slightly shorter than 1/2 of aedeagal apodeme.

Female. Vertex 0.3-0.4 of head width, frontal vitta narrower than fronto-orbital plate, parafacial about twice as wide as first flagellomere, gena about 0.5 of eye height. All head setae strong, inner vertical seta about 2/3 of eye height, outer vertical seta about 1/2 of inner vertical seta, ocellar seta as long as inner vertical seta or frontal seta, 1 weak prevertical seta and 2 strong proclinate orbital setae, 4-6 frontal setae. Antenna falling short of lower margin of face by about 1/2 length of first flagellomere. Lower calypter yellowish, short fringe on outer margin; claw and pulvillus 4 fore leg shorter than 5th tarsus. Abdomen yellow, a black median vitta interrupted by grayish white pollinosity on anterior 1/5-1/4 of tergite 3 and anterior 1/3 of tergites 4 and 5, dark brown on posterior margin of syntergite 1 + 2, posterior 1/3 of tergite 3 and posterior 2/3 of tergites 4 and 5. Tergites 3 and 4 each with 2 median discal setae and a row of marginal setae. Other characters same as in male.

Body length 9-15 mm.

Holotype, Mt. Jianfengling (18.7°N, 108.8°E), 800 m, Hainan, China, 20 May 1993, CUI Yong-Sheng. Paratypes: 1, 1, same as holotype; 1, Mt. Wuzhishan, 1 200 m, Hainan, China, 14 May 1993, CUI Yong-Sheng.

Etymology. Specific epithet is named for the type locality.

Remarks. This species is similar to *D. divergens* Walker, but differs from the latter in having narrow inner thoracic vitta, tergite 3 with a complete row of marginal setae in male and female and narrow cerci. It is also similar to *D. seticincta* Mesnil, 1980 from Japan, but differs from the latter in having 3 + 3 dc setae, reddish yellow postpronotal lobe and apical half of scutellum and yellowish tergites 4 and 5.

Acknowledgements I am grateful to Prof. Hiroshi Shima (Kyushu University, Japan), for the loans of type materials and specimens of *Dexia*. My thanks are extended to Prof. CHAO Chien-Ming (Institute of

Zoology, Chinese Academy of Sciences, Beijing), Prof. PANG Yi (Institute of Entomology, Sun Yat-sen University, Guangzhou), Prof. XUE Wan-Qi (SNUC) and Dr. CUI Yong-Sheng (Guelph University, Canada), for providing specimens and help.

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Zhang, C-T and Shima, H. 2004 Taxonomic study of *Dexia* Meigen from China (Diptera: Tachinidae). *Journal of Shenyang Normal*

University (Natural Science), 22 (1) : 49-56.

## 中国海南长足寄蝇属一新种（双翅目，寄蝇科）

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**摘 要** 长足寄蝇属幼虫主要寄生于土壤中生活的金龟总科昆虫，分布于东洋区、非洲热带区和古北区，其幼虫尾节背部均具 2 根特征性长鬃，区别于长足寄蝇族其它属而为一单系群。记述了采自我国海南省的长足寄蝇属 1 新种：海南长

足寄蝇 *Dexia hainanensis* sp. nov.，与分布东洋区的异长足寄蝇 *Dexia divergens* Walker 近似，但胸部背板黑色内侧纵条较窄，雌、雄腹部第 3 背板均具完整的 1 列后缘鬃，肛尾叶较窄。新种模式标本保存在沈阳师范大学昆虫研究所。

**关键词** 双翅目，寄蝇科，长足寄蝇属，新种.

**中图分类号** Q969.453.5